

## ***FORECAST OF UPCOMING ANNIVERSARIES -- JULY 2014***

### **90 Years Ago – 1924**

July 1: Dr. George W. Lewis appointed Director of Aeronautical Research of NACA, a post he held until 1947.

### **85 Years Ago - 1929**

July 17: Liquid-fueled rocket fired by Dr. Robert Goddard, Auburn, MA. Carried small camera, thermometer, and barometer. Flight generated much "moon rocket" publicity.

### **75 Years Ago - 1939**

July 1: Rocket Research Project formed under Dr. Theodore von Kármán at the California Institute of Technology, Pasadena, CA. This facility later became the Jet Propulsion Laboratory.

### **70 Years Ago - 1944**

July 5: MX-324, first U.S. military rocket-powered plane, built by Northrop, flown by test pilot Harry Crosby, Harper Dry Lake, CA.

### **60 Years Ago - 1954**

July 24: Naval Research Laboratory (NRL) transmitted first voice Earth-to-Earth messages using the moon as a reflector from Stump Neck, MD.

### **55 Years Ago - 1959**

July 16: Explorer satellite launched by Juno 2, destroyed by the Range Safety Officer, after 5 ½ seconds of flight, 13:38, EDT, Cape Canaveral, Fla.

### **50 Years Ago - 1964**

July 20: SERT-1 (Space Electric Rocket Test) suborbital test of electron bombardment ion engines., launched, 5:53 a.m., EDT, Wallops Flight Facility (WFF) .

July 28: Ranger 7 launched by Atlas Agena, 12:50 EDT, Cape Canaveral, Fla. Sends back to Earth 4,316 close-up images of the Moon before it impacts on the surface, July 31, at 9:26 a.m., EDT.

### **45 Years Ago – 1969**

July 13: Luna 15 launched by a Proton K rocket from Baikonur at 02:54:42 UTC. Impacted the Moon on July 21.

July 16: Apollo 11 launched by Saturn V, SA-506 from KSC. Astronauts Neil A. Armstrong, Edwin E. “Buzz” Aldrin, and Michael Collins. First Lunar landing and return mission. First lunar surface extravehicular activity (EVA).

First man-made items on lunar surface. First human foot print on lunar surface [Armstrong’s left foot]. First seismometer deployed on Moon. First laser reflector deployed on Moon. First solar wind experiment deployed on Moon. First lunar soil and rock samples returned to Earth. First test of landing radar and other landing systems on LM under operational conditions. First use of mobile quarantine facility. First use of the Lunar Receiving Laboratory at MSC. First meal eaten on Moon consisted of four bacon squares, three sugar cookies, peaches, pineapple-grapefruit drink and coffee. Launched 9:32 a.m., EDT.

July 20: First Manned Lunar Landing. Apollo 11 Lunar Module Eagle lands on the moon, while Columbia orbits the moon.

July 26: Intelsat 3 F5 launched by Thor Delta rocket from Cape Canaveral at 02:06 UTC.

July 29: Mariner 6 transmitted first close-up photos of Mars to the Jet Propulsion Laboratory, Pasadena, CA before July 31 Mars flyby.

#### **40 Years Ago - 1974**

July 3: Soyuz 14 launched by Soyuz, 1851 UTC, Baikonur, USSR. Ferry flight to Salyut 3 space station. Crew: Pavel R. Popovich and Yuri P. Artyukhin.

July 16: Aeros 2 launched by Scout, 4:51 a.m., PDT, Vandenberg AFB.

#### **35 Years Ago - 1979**

July 9: Voyager 2, Jupiter Flyby.

July 11: Skylab re-entered Earth's atmosphere and impacted Earth's surface. The debris dispersion area stretched from the Southeastern Indian Ocean across a sparsely populated section of Western Australia.

July 24: XV-15 demonstrated first in-flight transition from helicopter to aircraft mode, Arlington, TX. This was a joint program of the Ames Research Laboratory and the U.S. Army Research and Technology Laboratories for a proof-of-concept program.

July 24: Research pilot Thomas McMurty conducted the first flight of a KC-135 jet, with winglets, to demonstrate fuel efficiency.

#### **30 Years Ago - 1984**

July 17: Soyuz T-12 launched on Soyuz rocket from Baikonur at 17:40:54 UTC. Ferry flight to Salyut 7 space station. Crew: Vladimir A. Dzhanibekov; Svetlana Y. Savitskaya; Igor P. Volk.

July 25: Svetlana Savitskaya became first woman to spacewalk during Russian Soyuz T-12 mission launched July 18.

#### **25 Years Ago - 1989**

July 1: Richard H. Truly became NASA's eighth administrator. A former astronaut, he headed NASA's Office of Space Flight for almost 3-1/2 years.

July 20: President George H. W. Bush remarks on the 20th Anniversary of the Apollo 11 Moon Landing given on the steps of the National Air and Space Museum.

#### **20 Years Ago - 1994**

During July: Researchers using the Hubble Space Telescope (HST) announced the confirmation of a critical tenet of the Big Bang theory -- the presence of helium in the early universe.

July 1: Soyuz TM-19 launched on Soyuz rocket from Baikonur at 12:24:50 UTC. Ferry flight to Mir space station. Crew: Yuri I. Malenchenko and Talgat A. Musabayev.

July 8: STS-65 (Space Shuttle *Columbia*) launched, 12:43 p.m., EDT, from KSC. Crew: Robert D. Cabana, James D. Halsell, Richard J. Hieb, Carl E. Walz, Leroy Chiao, Donald A. Thomas, and Chiaki Naito-Mukai. Marked second flight of International Microgravity Laboratory (IML-2), carrying more than twice the number of experiments and facilities as IML-1. First Japanese woman to fly in space [C. Naito-Mukai]; she also set record for longest flight to date by female astronaut.

First Japanese to fly in space twice. [C. Mukai]. First time liftoff and re-entry as experienced from crew cabin captured on tape Landed July 23 at 6:38 a.m. EDT at KSC. Mission Duration: 14 days, 17 hours, 55 minutes.

July 8: Panamsat 2 (Intelsat 2) launched by an Ariane 44L rocket from Kourou, French Guiana at 23:05 UTC.

July 16-22: Comet Shoemaker-Levy 9 impacts on Jupiter.

### **15 Years Ago – 1999**

July 20: Retrieval of Liberty Bell 7 spacecraft from Atlantic Ocean floor 90 miles northeast of Great Abaco Island in the Bahamas.

July 23: STS-93 (Space Shuttle *Columbia*) launched, 12:31 a.m. EDT from KSC. Crew: Eileen M. Collins, Jeffrey S. Ashby, Steven A. Hawley, Catherine G. Coleman, and Michel Tognini (France). On STS-93, Eileen Collins became the first woman to command a Space Shuttle mission. Deployed the Advanced X-ray Astrophysics Facility (AXAF). Renamed Chandra, it is the most sophisticated X-ray observatory ever built. Landed July 27 at 11:20 p.m. EDT, KSC. Mission duration: 4 days, 22 hours 50 minutes.

July 31: Lunar Prospector impacts Moon 5:52 EDT in a permanently shadowed area of a crater near the lunar south pole. It was hoped that the impact would liberate water vapor from the suspected ice deposits in the crater and that the plume would be detectable from Earth. However, no plume was observed.

### **10 Years Ago – 2004**

July 1: Cassini-Huygens became the first spacecraft to go into orbit around Saturn.

July 15: The Aura spacecraft was launched aboard a Delta 2 from the Vandenberg AFB at 10:02 UTC. Its instruments examine Earth's rate of climate change, ozone, and pollution.

### **5 Years Ago – 2009**

July 15: STS 127 (Space Shuttle *Endeavour*) launched 6:03 EDT from KSC. Crew: Mark Polansky, Doug Hurley, Dave Wolf, Christopher Cassidy, Julie Payette, Tom Marshburn and Tim Kopra. Landed July 31 at 10:48 a.m. EDT, KSC. Mission Duration: 15 days, 16 hours, 45 minutes. The primary objective of this 16 day mission was to install the final components of the Japanese *Kibo* module to the ISS.

July 15: Charles Frank Bolden, Jr., was confirmed by the U.S. Senate as the 12<sup>th</sup> NASA Administrator.